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Jurgen Lessing

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EXAMINER

COX, ALEXIS K

ART UNIT

PAPER NUMBER

3785

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                                      |  |  |
|------------------------------|--------------------------------------|--|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/595,814 | <b>Applicant(s)</b><br>LESSING, JURGEN |  |
|                              | <b>Examiner</b><br>ALEXIS K. COX     | <b>Art Unit</b><br>3785                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 October 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) 4,5,7,12,14,16,17,26-30 and 34 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,6,8-11,13,15,18-25,31-33 and 36-45 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 May 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>8/15/2006</u>   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Claims 4, 5, 7, 12, 14, 16, 17, 34, and 35 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 1/31/2011.

Claims 1-3, 6, 8-11, 13, 15, 18-25, 31-33, and 36-45 are rejected.

Claims 4, 5, 7, 12, 16-17, 26-30, and 34-35 are withdrawn.

### ***Drawings***

2. New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because they are exceedingly unclear. For example, reference is made in the specification to "valve 13" (specification, paragraph 0062); however, the item numbered 13 in drawings 4, 5, and 6 appears to be a damper, not a valve. Additionally, the identification of the "valve controlled fluid guides" is not readily apparent, as the term appears to apply to both the dampers and the gas flow channels; nor is the 2:1 ratio claimed in dependent claim 23 clearly present in the drawings. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the fluid guides, with

different cross sections as claimed in claims 22 and 23, must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

4. Claim 1 is objected to because of the following informalities: the word "activatable" is not a word. It should be changed to "activeable" to increase the clarity of the claims. Similarly, throughout the specification, "activeatable" should be changed to "activeable."

5. Claim 2 is objected to because of the following informalities: the limitation "an evaporators" in line 2 should be changed to --an evaporator-- to render the claim grammatically correct. Appropriate correction is required.
6. Claim 9 is objected to because of the following informalities: the phrase "in accordance with claim, wherein" is incomplete; correction to include whichever claim – presumed for the purpose of examination to be claim 1 – this claim is intended to depend upon is required to render the claim complete.
7. Claim 3 is objected to because of the following informalities: the phrase "behind one another" indicates that they are arranged circularly, so that each is both behind and ahead of the other in the direction of flow; it is clear from the specification that the intended limitation is "one behind the other."
8. Claim 13 is objected to because of the following informalities: the phrase "heat exchangers is realized" is grammatically incorrect, and should be changed to --heat exchangers are realized--.

***Claim Rejections - 35 USC § 112***

9. Claims 1-3, 6, 8-11, 13, 15, 18-25, 31-33, and 36-45 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, the limitation "alternately activatable" is unclear as to what an activated heat exchanger is; whether activation means refrigerant flow through the heat exchanger, or cold refrigerant flow through the heat exchanger, or air flow which will enter the space being conditioned flowing through the heat exchanger, is unclear. For

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the purpose of examination, an activated heat exchanger is interpreted to be one which is cooling the substance flowing past it with the refrigerant flowing through it.

10. Further regarding claim 1, A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 1 recites the broad recitation "blowing of gas", and the claim also recites "in particular air", which is the narrower statement of the range/limitation.

11. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then

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narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 19 recites the broad recitation "the inlet opening and the outlet opening are always arranged on the same side of the apparatus", and the claim also recites "in particular next to one another" which is the narrower statement of the range/limitation.

Similarly to claims 1 and 19, in claim 23, the broad recitation "is larger", and the narrower limitation "in a ration of approximately 2:1", is recited. In claim 31, the broad limitation "at least one pressure measuring device," followed by the narrower limitation ""in particular a pressure gage", is recited. In claim 36, the broad recitation ""in one of gas conducting passages and a fan housing" is followed by the narrow recitation "in particular in a region of an outlet opening". In claim 43, broad recitation "access opening" is followed by narrow recitation "in particular a door". Each of these claims, similar to claims 1 and 19, is considered indefinite.

Claim 13 recites the limitation "the different directions of throughflow of the heat exchangers" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 15 recites the limitation "alternately connected to one of the first and the second heat exchangers." This is not possible without a system in which the heat

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exchangers are completely physically detached from each other, which has not been disclosed. " For the purpose of examination, "alternately connected" within claim 15 has been interpreted as "alternately fluidly connected to" or "alternately fluidly connected first to" so that an alternating pattern of which heat exchanger receives airflow from the fan is established.

Claim 33 recites the limitation "a filter change" in line 3. There is no prior mention of a filter in claims 1 and 31, and a filter change cannot be required in a system without a filter.

Claim 43 recites the limitation "the housing" on lines 2-3. There is no reference to a housing in claim 1, causing claim 43 to lack antecedent basis.

Claim 44 recites the limitation "each chamber" in lines 1-2. Claim 44 depends upon claim 1, and there is no reference to a chamber or plurality of chambers in claim 1.

### ***Claim Rejections - 35 USC § 102***

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

13. Claims 1-3, 8, 18, 19, and 39-40 are rejected under 35 U.S.C. 102(b) as being anticipated by Jue (US Patent No. 2,763,132).

Regarding claim 1, Jue discloses a refrigerating apparatus comprising two alternately activeable heat exchangers of a coolant circuit (2, 3), with gas flowing through the heat exchangers (see column 1 lines 19-21), wherein the heat exchangers

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are arranged such that they can each be flowed through by a total gas flow at least upon activation (see figure). Jue further explicitly discloses the presence of a fan (see column 3 lines 41-45, "suitable fans") to drive the gas flow.

Regarding claim 2, Jue discloses both exchangers to be evaporators (see column 2 lines 53-71; see the figure).

Regarding claim 3, the two heat exchangers are arranged with one behind the other in the direction of flow (see figure).

Regarding claim 8, gas conducting passages are arranged between the at least one fan and the heat exchanges (1, 29, 31, 32, see column 3 lines 49-58 and figure).

Regarding claim 18, the inlet and outlet of Jue are each formed by the same opening irrespective of the through flow direction of the heat (see figure; arrows immediately by heat exchanger 34).

Regarding claim 19, the inlet and outlet opening are always arranged on the same side of the apparatus, in particular next to one another (see figure).

Regarding claims 39 and 40, there is a control mechanism (see column 2 line 14) provided which permits overlapping operation of the heat exchangers (see column 2 lines 12-23), and which regulates humidity (see column 2 lines 12-23; see also title).

### ***Claim Rejections - 35 USC § 103***

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

16. Claims 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jue (US Patent No. 2,763,132).

Regarding claim 20, it is noted that the fluid guides of Jue are not explicitly disclosed to extend in different planes at least sectionally. However, Jue only discloses a schematic drawing, and it would have been obvious to one of ordinary skill in the art at the time of the invention to route the fluid guides or ducts of Jue in whatever manner is needed to best fit them into a building, including in such a way that they extend in different planes at least sectionally.

Regarding claim 21, the fluid guides of Jue extend one of over and beneath one another and next to one another, as they do not simply extend solely in opposite directions entirely, and that is the only way for them to be neither next to nor one above the other.

Regarding claim 22, a cross-section of the fluid guides is different in different sections, and the cross-section when nearing the heat exchangers is slightly larger where the ducts split or rejoin.

17. Claims 6, 9, 23, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jue (US Patent No. 2,763,132) in view of Kreuttner (US Patent No. 2,755,072).

Regarding claim 6, it is noted that Jue does not explicitly disclose the location of the fan or other suitable gas flow causing device.

Kreuttner explicitly discloses an air conditioner with multiple heat exchangers which are behind the associated fan in the direction of flow (fan 66, exchangers 10, 4, see figure 2). As the systems of Jue and Kreuttner are both directed to air conditioning, it would have been obvious to one of ordinary skill in the art at the time of the invention to locate the fan such that the heat exchangers were behind it in the direction of flow, as is done by Kreuttner, because that is where the strongest gas motion is, and this arrangement would cause more efficient heat exchange.

Regarding claim 9, the heat exchangers of Jue are arranged inside the gas conducting passages (see figure).

It is noted that the fan or fans of Jue are not explicitly disclosed to be located inside the gas conducting passages.

Kreuttner explicitly discloses an air conditioner with multiple heat exchangers which are behind the associated fan in the direction of flow (fan 66, exchangers 10, 4, see figure 2), where the fan and heat exchangers are all arranged inside gas conducting passages (see figure 2). As the systems of Jue and Kreuttner are both directed to air conditioning, it would have been obvious to one of ordinary skill in the art at the time of

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the invention to locate any such air moving device inside the gas conducting passages in order to best cause the correct gas to flow.

Regarding claim 23, it is noted that the cross-section of the fluid guides in the region of the heat exchangers of Jue is not larger than the cross-section elsewhere.

Kreuttner explicitly discloses an air conditioner in which the cross-section of fluid guides in the region of heat exchangers (10, 4, see figure 2) is larger, in particular in a ratio of approximately 2:1, than before or behind the heat exchangers (see figure 2). As the systems of Jue and Kreuttner are both directed to air conditioning, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the larger duct size and associated increased contact space of Kreuttner in the system of Jue in order to permit more rapid heat exchange between the refrigerant loop and gas flow in the system of Jue.

Regarding claim 25, it is noted that Jue does not explicitly disclose the presence of a filter. Kreuttner explicitly discloses the presence of a filter (72, 74, see figure 2) in the gas conducting passages. It would therefore have been obvious to one of ordinary skill in the art at the time of the invention to implement the filter of Kreuttner in the system of Jue in order to provide cleaner air to the space being conditioned.

18. Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jue (US Patent No. 2,763,132) in view of Turcotte (US Patent No. 6,038,879).

Regarding claim 10, it is noted that the fan and heat exchangers of Jue are not explicitly disclosed to be arranged in a common housing.

Turcotte explicitly discloses an HVAC unit with fans (24, 44) and heat exchangers (70, 74) arranged within a common housing (see figure 1; see also column 3 lines 31-33). As the systems of Jue and Turcotte are both directed to air conditioning, it would have been obvious to one of ordinary skill in the art at the time of the invention to arrange the fan and heat exchangers in a common housing, as is done by Turcotte, in order to make installation of the system convenient, and cause it to require the least space possible.

Regarding claim 11, gas conducting passages are connectable to the system of Jue at least at a gas outlet side (see figure).

19. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jue (US Patent No. 2,763,132) in view of Kohut, Jr. (US Patent No. 2,835,476).

Regarding claim 13, the different directions of through flow of the heat exchangers are realized by fluid guides (dampers 27, 28, "or any other functionally equivalent members", see column 3 lines 45-60).

It is noted that the fluid guides of Jue are not explicitly disclosed to be valve controlled. Kohut, Jr. explicitly discloses the use of fluid guides in an air conditioning apparatus which are valve controlled (see column 4 lines 10-23), where the valve controlled fluid guides are considered to be the combination of the gas flow passages and the associated damper or valve. As the systems of Jue and Kohut, Jr. are both directed to air conditioning and are similar in structure, it would have been obvious to one of ordinary skill in the art at the time of the invention to implement valve controlled

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fluid guides, as is done by Kohut Jr, in the system of Jue, in order to have better sealed edges and thus better controlled airflow than with a simple damper.

20. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jue (US Patent No. 2,763,132) and Kohut, Jr. (US Patent No. 2,835,476) in view of Kreuttner (US Patent No. 2,755,072).

Regarding claim 15, the fan of Jue and Kohut, Jr. includes a suction side that is connected to the inlet opening, as otherwise it would not be effective as a fan.

It is noted that the fan of Jue is not explicitly shown. Kreuttner explicitly disclose an arrangement of fan and heat exchangers such that the airflow leaving the fan goes to first one heat exchanger, then the other, then the outlet opening (fan 66, exchangers 10, 4, see figure 2). As the systems of Jue and Kreuttner are both directed to air conditioning, it would have been obvious to one of ordinary skill in the art at the time of the invention to locate the fan such that the airflow leaving the fan went to first one heat exchanger, then the other, then the outlet opening, as is done by Kreuttner, in order to effectively use a single fan for both heat exchangers.

21. Claims 24, 41, and 42 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Jue (US Patent No. 2,763,132) in view of Skeel (US Patent No. 6,129,056).

Regarding claim 24, it is noted that Jue does not explicitly list a radial fan as one of the possible means to cause gas flow. Skeel explicitly discloses the interchangeability of radial fans with other fan types when used in a cooling system (see column 3 lines 48-51). It would therefore have been obvious to one of ordinary skill in the art at the time

of the invention to substitute a radial fan for the unspecified generic fan of Jue in order to use a fan which is less likely to be clogged with debris.

Regarding claim 41, it is noted that Jue does not explicitly discuss noise attenuation. Skeel explicitly discloses air deflection member 58 (see figures 5-7) to reduce the noise produced by the cooling system (see column 4 lines 63-67), as well as saving power. It would therefore have been obvious to one of ordinary skill in the art at the time of the invention to implement an air deflection member in the system of Jue, as is done by Skeel, in order to reduce power consumption and noise creation by the air conditioning unit.

Regarding claim 42, it is noted that Jue does not explicitly disclose the fans to be variable speed, as Jue simply states that they are "suitable."

Skeel et al explicitly discloses fan speed control according to the quantity of heat transfer required (see column 4 lines 11-19).

It would therefore have been obvious to one of ordinary skill in the art at the time of the invention to control the speed of the fans of Jue in order to cause the flow rate of the air being conditioned to be optimal for efficiency.

22. Claims 31 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jue (US Patent No. 2,763,132) in view of Chu et al (US Patent Application Publication No. 2002/0116933).

Regarding claims 31 and 32, it is noted that Jue does not disclose the presence of an air pressure sensor. Chu et al explicitly discloses the use of a pressure sensor which detects pressure drop across a heat exchanger to determine when defrost should

occur (see paragraph [0073] and abstract). As the systems of Jue and Chu are similar in structure and both act to control air temperature and humidity, it would therefore have been obvious to one of ordinary skill in the art at the time of the invention to institute a pressure sensor, as was used in Chu, in the system of Jue, and use it to determine when defrost was required.

23. Claims 31 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jue (US Patent No. 2,763,132) in view of Engwall (US Patent No. 3,926,250).

Regarding claims 31 and 33, it is noted that Jue does not disclose the presence of a pressure sensor. Engwall explicitly discloses an environmental control system which uses an air pressure sensor to detect when to change the filter on an air cooling system (see column 3 lines 46-52). It would therefore have been obvious to one of ordinary skill in the art at the time of the invention to implement the filter, pressure sensor, and filter change detection via pressure sensor of Engwall in the system of Jue in order to supply cleaner air to the area being climate controlled.

24. Claims 36 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jue (US Patent No. 2,763,132) in view of Robinson et al (US Patent No. 3,769,809).

Regarding claims 36 and 38, it is noted that Jue does not explicitly disclose the presence of means for sterilization. Robinson et al explicitly discloses cleaning machinery with citric acid (see column 1 lines 54-55) in order to sterilize it. It would therefore have been obvious to one of ordinary skill in the art at the time of the invention

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to implement a citric acid disinfectant in the system of Jue in order to disinfect the machinery of Jue with a chemical which is safe enough to be ingested.

25. Claims 36, 37, and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jue (US Patent No. 2,763,132) in view of Shindo et al (US Patent Application Publication No. 2003/0217561).

Regarding claims 36 and 37, it is noted that Jue does not disclose a sterilization means. Shindo et al explicitly discloses the use of an ultraviolet lamp (310, see abstract and paragraphs [0011] and [0043]) to deodorize and sterilize air. It would therefore have been obvious to one of ordinary skill in the art at the time of the invention to put a sterilization lamp, such as is used by Shindo, into the system of Jue, in order to reduce sick days taken by workers in the space conditioned by Jue.

Regarding claim 45, it is noted that Jue does not disclose a lighting source within the housing. However, the ultraviolet lamp of Shindo is a lighting source, and would be within the housing if implemented in the system of Jue to sterilize air.

26. Claims 43 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jue (US Patent No. 2,763,132) in view of Willoughby (US Patent No. 2,003,916).

Regarding claims 43 and 44, it is noted that Jue does not disclose a plurality of chambers in a common housing with an access door for each chamber and a condensate drain for each chamber.

Willoughby explicitly discloses a plurality of chambers (44), each of which has an access hatch (36, see page 1 right side lines 49-55 and page 1 left column lines 1-8) and a condensate drain (116, see page 2 right column lines 31-48). As Jue and

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Willoughby are both concerned with temperature control, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the chambers of Willoughby in the system of Jue in order to make zone control more energy efficient. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the individual access hatches of Willoughby in the system of Jue in order to make maintenance easier. And it would have been obvious to one of ordinary skill in the art at the time of the invention to use the drains of Willoughby in the system of Jue in order to most efficiently cope with water condensed out of the atmosphere in the process of humidity control without accidentally re-vaporizing the water which is to be removed.

### ***Conclusion***

27. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Coffman (US Patent No. 3,304,733) discloses both chambers and drains in a cooling system. Voss et al (US Patent Application Publication No. 2003/0183374) discloses a plurality of chambers within a housing, each with its own condensate drain. Knight et al (US Patent Application Publication No. 2007/0199340) discloses a plurality of chambers, each having an access opening and a drain. Rigney et al (US Patent Application Publication No. 2005/0210910), Strupczewski (US Patent No. 4,373,576), Batcheller et al (US Patent No. 4,467,706), and Berner et al (US Patent No. 5,230,719) all address the issue of noise within a cooling system. Tival (US Patent No. 1,979,124), Faqih (US Patent Application Publication No. 2002/0046569), Gagliano (US Patent Application Publication No. 2003/0051499), and Voute et al (U Patent Application Publication No. 2003/0079482) all use ionization and or UV light to sterilize

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cooled material. Kamuf (US Patent No. 6,662,590), Klee et al (US Patent No. 3,892,104), and Walker (US Patent No. 3,205,676) all disclose the use of radial fans in air conditioning systems. Foglesonger (US Patent No. 4,998,584) discloses the injection of citric acid to clean a heat exchanger.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALEXIS K. COX whose telephone number is (571)270-5530. The examiner can normally be reached on Monday through Thursday 9:30a.m. to 7:00p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Swann can be reached on 571-272-7075. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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